



Electromagnetic Environmental Protection

By Thomas Kidd - April-June 2014

Much like the Industrial Revolution led to increased awareness of land, air and water pollution, the wireless revolution is creating an awareness of electromagnetic pollution. The electromagnetic environment (EME) is all around us, and failure to protect it from pollution could affect departmental operations.

Access to the electromagnetic spectrum is critical to the Department of the Navy (DON). A typical Navy carrier battle group uses as much spectrum as a medium-sized city, including an airport. While the DON is committed to protecting the EME, preventing and identifying situations that might be considered pollution is a challenge.

The DON is concerned about protecting the EME for the same reasons it protects air, water and land. Maintaining a sustainable EME has ecological, economic, political and cultural dimensions in much the same way maintaining our waterways for commercial and recreational use while providing safe drinking water does. There is increasing concern about the effect the exponential growth in wireless activity could have on the EME.

The EME is simultaneously a natural and a man-made environment. Whether the EME is considered a natural resource or physical phenomenon, it is critical that the DON consider its effects on all DON mission areas.

Maintaining a balance between security and economic demands for spectrum depends on a sustainable EME, and a sustainable EME requires the DON to balance national defense and commercial demands with fair and equitable access. In some ways, sustaining the EME requires strategies similar to noise abatement. While few people would wish to live near an airport, most agree they are necessary for modern life. Noise abatement rules protect the community environment while maintaining commercial access to air travel.

There are, however, many barriers to enforcing electromagnetic environmental protection policy. For one, those negatively affected by electromagnetic pollution may not be able to locate the source; unlike water, air or land, electromagnetic pollution is invisible, and the effects may not be apparent to the polluter.

In recent years the EME has begun to receive significant media attention and political interest. Spectrum shortages have raised electromagnetic environmental protection to near-crisis status in geographic areas where the DON and local communities are encroaching on each other's spectrum. Some EME issues are unique to the local camp, post or station, and are challenging to address in departmental policy. But local challenges are being resolved through the hard work and dedication of Navy and Marine Corps installation spectrum managers. DON spectrum managers answer to various groups, compete for resources and mitigate a wide array of potential harms to the EME.

However, it is impossible to address EME protection effectively or efficiently if there is no specific mission requirement. [Secretary of the Navy Instruction 2400.2](#) identifies who is responsible for electromagnetic environmental policy and management, but the broader concept of EME protection is still developing.

Thomas Kidd is the lead for strategic spectrum policy for the Department of the Navy.

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